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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/922,948	08/07/2001	Stefan Wigger	33713W003	9507

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EXAMINER

WILKINS III, HARRY D

ART UNIT

PAPER NUMBER

1742

DATE MAILED: 01/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/922,948

Applicant(s)

WIGGER ET AL.

Examiner

Harry D Wilkins, III

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 26-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 26-40 is/are rejected.
- 7) ☒ Claim(s) 37 and 38 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 17 December 2004 has been entered.

Claim Objections

2. Claims 37 and 38 are objected to because of the following informalities: each of these claims recites "the process of claim ____", however, the claim number recited is a composition not a process. Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. Claims 26-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirooka et al (US 5,330,813) in view of Marantz et al (US 3,989,622) and Milaniak et al (US 5,366,765).

Hirooka et al teach the invention substantially as claimed. Hirooka et al teach (see col 2, line 34) a method for preventing carburization on a selected area that includes (see col 3, lines 32-34) applying a patch containing particulate materials such as borax, boron oxide, borosilicic acid, phenylboric acid and water glass and (see col 3, lines 53-54) adjuvant materials such as talc and magnesia. The patch allows for carburization for a portion of the metal surface to be prevented (see col 2, lines 43-44). Hirooka et al contain several examples where the ratio of the particulate material to the adjuvant was 9:1 (see examples 2 and 5), 4.5:1 (example 7) and 13:1 (example 8).

It would have been within the expected skill of a routineer in the art to have selected a substance which forms boron glass (e.g. boron oxide and borax) as the particulate material and to have selected a magnesium-silicon compound, such as talc, as the adjuvant in order to obtain the best anti-carburizing coating with the best ability to stay in place (the function of the adjuvant).

Hirooka et al teach using talc (see col. 3, lines 53-54) (composition $\text{Mg}_3\text{Si}_4\text{O}_{10}(\text{OH})_2$, see "The Mineral Talc") as the magnesium-silicon compound. Thus, Hirooka et al fail to meet the claimed composition of magnesium orthosilicate, metasilicate or trisilicate.

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Marantz et al teach (see col. 7, lines 51-64) that talc is a naturally occurring magnesium silicate and magnesium silicates, such as magnesium trisilicate, are merely refined versions of the natural ore. Thus, one of ordinary skill in the art would have expected the refined versions of talc to have the same effects as the unrefined ore.

Thus, it would have been obvious to one of ordinary skill in the art to have substituted refined magnesium silicates, such as magnesium trisilicate, for the talc of Hirooka et al.

However, Hirooka et al do not teach that the composition was applied as a paste, semi-liquid or liquid.

Milaniak et al teach several methods of applying a composition of a powder mixed with a binder onto a metal surface. In particular, the invention of Milaniak et al is directed to (see abstract) a method of applying a coating by application of a slurry (i.e.-a semi-liquid). Milaniak et al is considered to be analogous art because it is related to the problems addressed by the present invention, particularly the application of a powder material onto a metal surface.

The "patch" of Hirooka et al and the slurry of Milaniak et al are considered to be functional equivalents. The reason that they are considered equivalent is that they both perform the same function of providing a method of coating a metal surface with a powder easily. See MPEP 2144.06. No motivation is needed for the substitution of functional equivalents.

Regarding claim 27, Milaniak et al teach (see abstract) drying the slurry.

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Regarding claim 28, the patch of Hirooka et al prevents carburization on the applied area, so that the area to which it is not applied is carburized.

Regarding claim 29, Hirooka et al teach (see example 1) that during the oil quenching step, the boron glass film is washed from the surface.

Regarding claim 30, Hirooka et al contain broad disclosures (see col. 1, lines 54-60) of carburizing at 300-1000°C.

Regarding claim 31, Hirooka et al teach (see example 1) using vacuum carburizing.

Regarding claim 32, 35, 37, 38, 39 and 40, Hirooka et al teach (see col 4, lines 23-28) that the preferred composition contains 40-70 wt% particulate (anti-carburizing compound), such as boron oxide (col 3, lines 32-34) and 60-30 wt% binder resin, and a ratio of anti-carburizing compound to adjuvant of about 9:1. The presently claimed composition is within the broad range disclosed by Hirooka et al. However, it would have been within the expected skill of a routineer in the art to have optimized the composition of the three components within the claimed range in order to best create a coating that prevents carburizing and remains in place during heating (see col 2, lines 44-51).

Regarding claim 33 and 36, as above, Marantz et al suggest using refined magnesium trisilicate in place of unrefined talc.

Regarding claim 34, as above, Hirooka et al in view of Marantz et al and Milaniak et al teach applying a composition to an area of a metal substrate to prevent carburization, the composition including a source of boron which forms boron glass and

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a magnesium-silicon compound as an adjuvant to help prevent run off of the applied film.

Response to Arguments

6. Applicant's arguments filed 17 December 2004 have been fully considered but they are not persuasive. Applicant argued that:

- a. None of the applied references suggest use of a liquid, semi-liquid or paste.

In response, in the Examiner's opinion, functional equivalency has been established between the patch application method of Hirooka et al and the slurry (semi-liquid) application method of Milaniak et al. Thus, in the Examiner's opinion the prior art suggests applying the composition as a semi-liquid.

- b. Marantz et al and Milaniak et al are non-analogous art.

In response, Marantz et al is applied for evidence regarding the similarities between talc and refined magnesium silicates, and thus is reasonably pertinent to the matter at hand showing that the differences between the talc of Hirooka et al and the magnesium trisilicate of the present claims is not significant. Milaniak et al is applied to show equivalent methods of applying a powdery substance to a metal substrate. Thus, this reference is pertinent to the disclosure of Hirooka et al, as it presents known alternative methods for applying the composition to the metal substrate.

- c. Hirooka et al teach away from not using the pressure sensitive adhesive.

In response, while it is true that Hirooka et al use an adhesive to attach the patch to the metal substrate, one of ordinary skill in the art would have known that such

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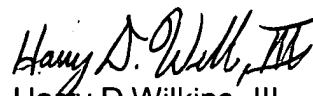
adhesive would not be required for alternative methods of applying a powdery substance to the metal substrate. When using the slurry taught by Milaniak et al one of ordinary skill in the art would have omitted using the adhesive of Hirooka et al since the slurry would flow to the places where it would be applied.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harry D Wilkins, III whose telephone number is 571-272-1251. The examiner can normally be reached on M-Th 10am-8:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy V King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Harry D Wilkins, III
Examiner
Art Unit 1742

hdw